



2016 Montana Manufacturers Survey

March 2017

Prepared by:

Paul E. Polzin, Director Emeritus
Bureau of Business and Economic Research
University of Montana
Missoula, Montana 59812

Prepared for:

Montana Manufacturing Extension Center
Montana State University
Bozeman, Montana 59717



TABLE OF CONTENTS

Introduction 3

About the Montana Manufacturing Information System 3

An Overview of Montana Manufacturing 4

Trends in Manufacturing 4

Manufacturing Categories 5

The Year 2016 in Review 6

Forecasts for 2017 9

2016 MONTANA MANUFACTURERS SURVEY

Introduction

This report presents the findings of the 2016 Montana Manufacturers Survey. The initial Montana Manufacturers Survey was conducted in 1999. Since then, the Bureau of Business and Economic Research (BBER) at the University of Montana has conducted the survey during November and December each year. The purpose of the survey is to learn the manufactures' assessment of their plants economic performance in 2016 and their outlook for the upcoming year.

The 18th annual survey was conducted in late 2016. A total of 250 establishments who were part of the Montana Manufacturing Information System (MMIS) were contacted, including Montana's largest manufacturers as measured by employment, as well as a sample of smaller establishments representing a wide variety of sectors. Of all establishments contacted, 172 or 69 percent responded to the survey.

The findings of the surveys are a crucial input into the manufacturing industry's component of BBER's annual Montana Economic Outlook Seminar. While some information is included in the Outlook Seminar material and BBER's Montana Business Quarterly, this publication provides a detailed and comprehensive presentation of the survey findings. Additional information and analyses of the Montana economy, economic conditions throughout the state and major sectors of the state's economy can be found in the Montana Business Quarterly and on the Bureau's website at www.bber.umt.edu.



About the Montana Manufacturing Information System

The Montana Manufacturing Information System (MMIS) was created to improve Montana manufacturers' knowledge of other manufacturers in the state with whom they may engage in profitable business arrangements. Montana is a large state with a small population, making it difficult to know who is doing what. Some Montana manufacturers may be unaware of other manufacturers in the state leading to missed business opportunities. The primary goal of the Montana Manufacturers Information System (MMIS) is to



provide in one place detailed and up-to-date information about manufacturers in Montana. A second goal is to provide additional exposure to Montana manufacturers' products and capabilities. The third goal is to improve decision-making by collecting and reporting accurate information about manufacturing in Montana.

MMIS resides at the University of Montana's Bureau of Business and Economic Research. It has been developed jointly by the Bureau of Business and Economic Research, Montana State University's Montana Manufacturing Extension Center and the Montana Department of Commerce. Detailed information about products, processes,

equipment, certifications and licenses are contained in this information system. There are data for over 1,200 establishments and MMIS members can enter the system through a password-protected program to update their information.

An Overview of Montana Manufacturing

The traditional image of a factory with a smokestack certainly does not apply to Montana manufacturing. In fact, manufacturing in Montana is dominated by small businesses. The U.S. government reports almost 3,000 entities conducting manufacturing activities. Of these, about 1,250 have employees. The average size of a manufacturing establishment with employees is 18 workers. More than one half of these establishments have less than five workers. Montana has no manufacturers in the larger size categories (500 or more workers).

Some quick facts about Montana manufacturing:

- Employed about 24,500 workers, including the self-employed.
- Accounted for roughly 16 percent of Montana's economic base.
- Paid about \$46,000 per year in earnings, well above the statewide average of \$39,000.
- The value of shipments was about \$9.7 billion.



Trends in Manufacturing

Manufacturing has provided fewer and fewer jobs in both the U.S. and Montana over the past several decades. But increases in labor productivity have led to continued growth in manufactured goods at about the same rate as the other sectors of the economy.

Since the trough of the Great Recession in 2009, U.S. manufacturing employment has increased about four percent. In Montana, employment rose 15 percent during the same period. If the wood products industry is excluded, employment in the remaining sectors of Montana manufacturing grew almost 23 percent. In other words, the most recent data show employment growth in manufacturing in both the U.S. and Montana, with faster growth in Montana.

Manufacturing Categories

The U.S. government provides 22 general and more than a thousand detailed sub-categories for manufacturing. For this report, we've combined these into five categories. This smaller list enables a manageable analysis of general trends while protecting the identity of individual respondents. For many of the detailed manufacturing categories, and several of the general categories, there are only a few firms or just a single one. In these cases, the identity and characteristics of the respondent could be easily inferred.

Wood Products

Establishments that harvest and/or process timber into products such as lumber, plywood, log homes, medium density fiberboard, particleboard, post and polls, as well as establishments that further process primary wood products into items such as furniture, laminated beams, trusses, window and door frames, and wood carvings.

Chemicals/Petroleum Refining/Metallic and Nonmetallic Products

Establishments that transform organic and inorganic raw materials by a chemical process or by transforming mined or nonmetallic minerals, as well as establishments engaged in the refining of crude petroleum, and establishments engaged in smelting and refining ferrous and nonferrous metals. Examples include oil refineries, high-tech silicon production and personal care products.



Food and Beverage

Establishments that manufacture food and beverages, including primary processors of Montana's crops and livestock, as well as those producing for retail sale. Examples include sugar beet plants, bakeries, dairies, breweries, wineries and distilleries.

Machinery/Equipment

Establishments engaged in manufacturing machinery, equipment or instruments. Included are industrial and commercial machinery, computer and electrical equipment, transportation equipment and fabricated metals. Examples include high-tech measurement equipment, truck campers, and welded and stamped products.

All Other Manufacturing

Establishments engage in light manufacturing including plastic products, sporting goods, games and toys, apparel and jewelry, as well as those engaged in printing or performing services for the printing trade, such as bookbinding.

The Year 2016 in Review

Montana manufacturers were asked a number of questions about their plants performance in 2016. In general, Montana manufacturers reported that 2016 was a moderately positive year. Slightly more respondents reported increases rather than decreases in most economic indicators. Significant worker shortages were reported in several manufacturing categories. Health insurance costs and worker availability were cited as major issues facing manufacturers in 2016.

Figure 1. During 2016, what happened to your plant’s gross sales?

About 37 percent of establishments said their gross sales increased, while 29 percent said their sales decreased and 34 percent remain unchanged. The sector with the greatest reported increase was food and beverage manufacturers with 44 percent reporting increased sales, perhaps reflecting new breweries, wineries and distilleries. Ironically, food and beverage manufacturers were tied with wood products in reporting 39 percent decreased sales.

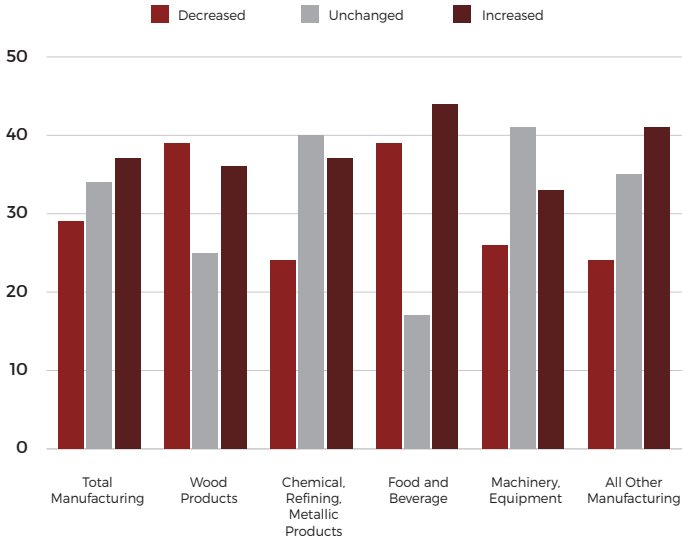


Figure 2. During 2016, what happened to your plant’s production?

Production increased at 40 percent of the manufacturing plants, compared to 30 percent of manufacturers reporting a decrease. Roughly one-third of plants said production remained unchanged. The largest percentage increase in production was in the all other manufacturing category, where 54 percent of plants reported an increase. The greatest number reporting a production decline was in machinery/equipment, with 34 percent reporting a decrease.

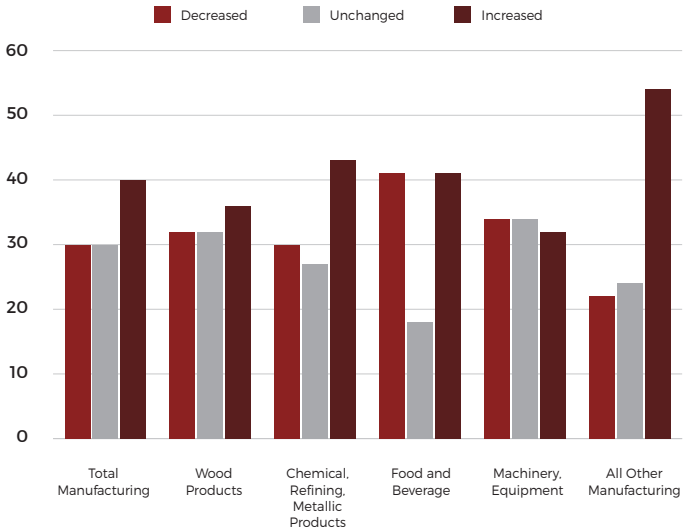


Figure 3. During 2016, what happened to your plant's profits?

Respondents said that profits were a mixed in 2016. About the same percentage reported increased profits (39 percent) as those reporting decreased profits (37 percent). With the exception of wood products, roughly 40 to 42 percent of the firms in each category reported profit increases. The largest number reporting a decrease was in food and beverages.

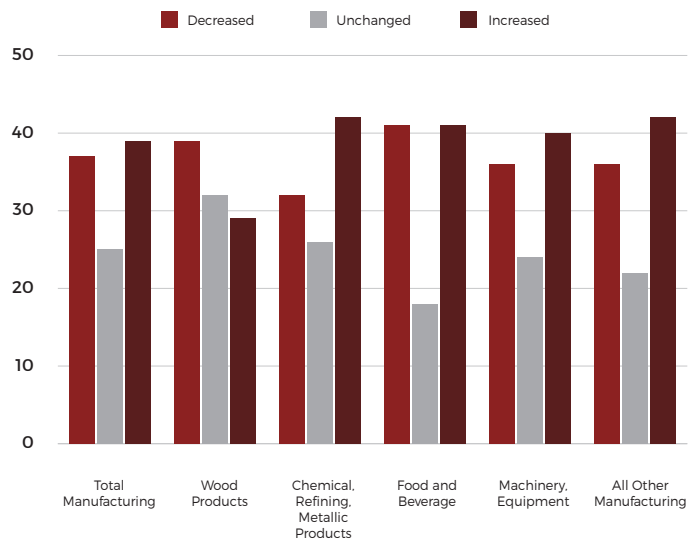


Figure 4. During 2016, what happened to your plant's employment?

Approximately 28 percent of respondents said employment increased at their plant while about 19 percent said employment decreased. The machinery/equipment category reported the largest increases while the most reported decreases were in wood products.

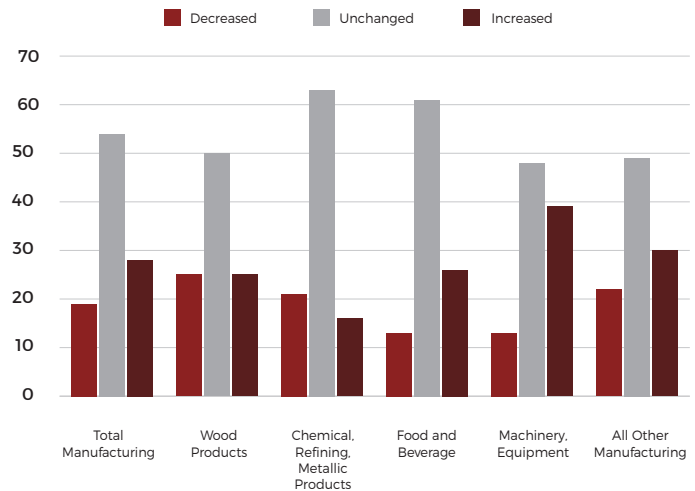


Figure 5. During 2016, did your plant have a shortage of workers?

Slightly less than one-third (31 percent) of manufacturing firms reported that they experienced a significant shortage of workers in 2016. The greatest shortages were reported in the all other and chemical/refining/metallic products categories.

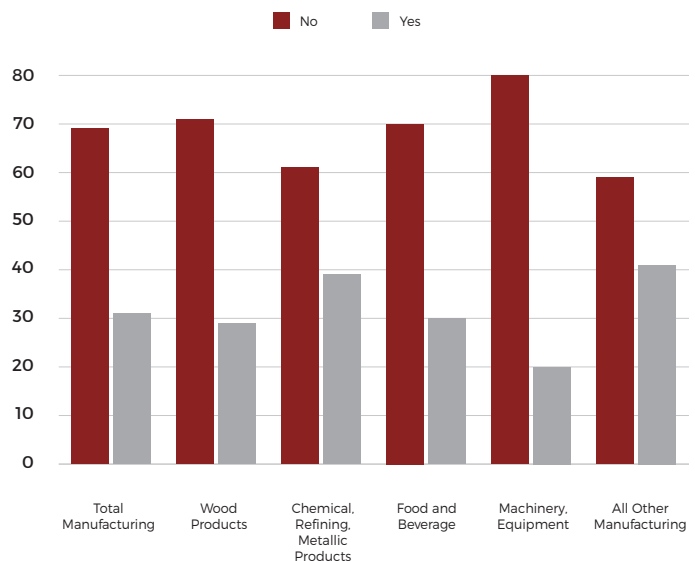


Table 1. Important issues faced by Montana manufacturers in 2016. (Percent of responders saying “very important.”)

The two most important issues facing manufacturers in 2016 were health insurance costs and the availability of qualified workers. Several other concerns received relatively low ranking, but were important for certain sectors of manufacturing. For example, energy costs were very important to most manufacturers except those in chemical/refining/metallic products and machinery/equipment categories. In addition, raw material availability was important to most manufacturers except those in the machinery/equipment category.

Rank	Issue	Percent
1	Health Insurance Costs	73
2	Qualified Workers Availability	66
3	Workmens Comp Rates	58
4	Raw Material Availability	53
5	Workmans Comp Rules	50
6	Cost of Energy	45
7	WorkForce Development Costs	25
8	Foreign Competition	16

Table 2. Respondents’ comments concerning important issues.

Respondents were given an additional opportunity to identify important issues in an open-ended question. The first three quotes are examples of comments that repeated concerns about health insurance and worker availability. The remaining quotes are examples of comments addressing an additional concern about regulation in general.

Comments
"Finding good help"
"Trying to hire and keep qualified employees"
"Cost of health insurance is a major issue"
"Insurance costs, mostly health"
"New and hopefully rescinded overtime rules"
"Government regulation both Federal and state"
"Regulation"

Forecasts for 2017

Montana manufacturers are generally optimistic about 2017. Far more of respondents said that 2017 would be better than 2016 than thought it would be worse. Optimism was expressed for all economic indicators and was widespread among the manufacturing categories. The least optimistic firms were food and beverage manufacturers.

Figure 6. What will happen to your plant's production during 2017?

About 60 percent of manufacturing plants said that their production would increase in 2017 over that of 2016. The least optimistic were food and beverage manufacturers, where only 35 percent were looking for an increase in 2017. About 61 percent thought that production would be unchanged.

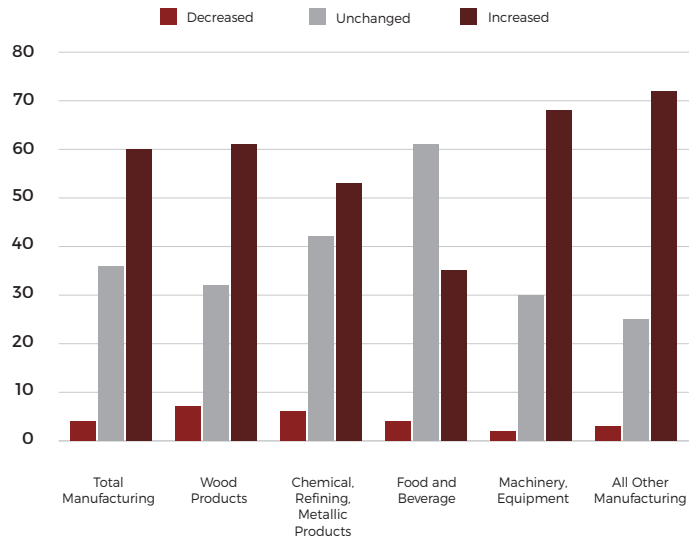


Figure 7. What will happen to your plant's production prices during 2017?

About 40 percent of respondents said they expected their plant's production prices to increase in 2017. The least optimistic category was wood products, and food and beverage manufactures, where the percentage of respondents expecting declines were in double-digits.

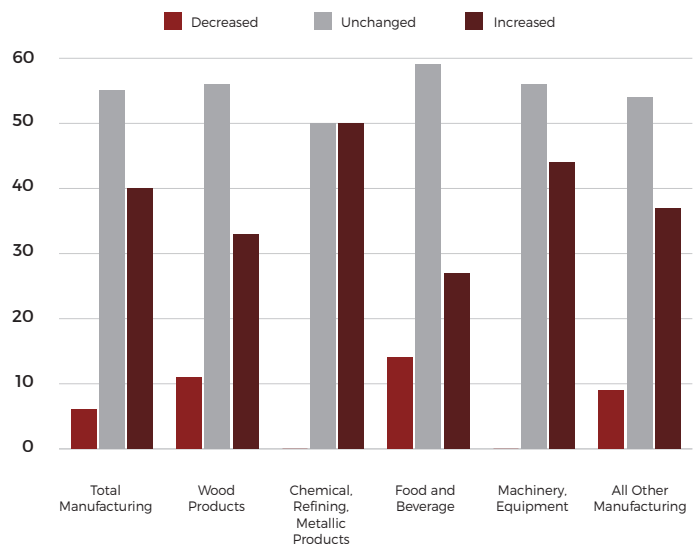


Figure 8. What will happen to your plant's gross sales during 2017?

Almost two-thirds (64 percent) of respondents said they expected their plant's gross sales to increase in 2017. The least optimistic were food and beverage manufacturers, where 57 percent thought gross sales would remain unchanged.

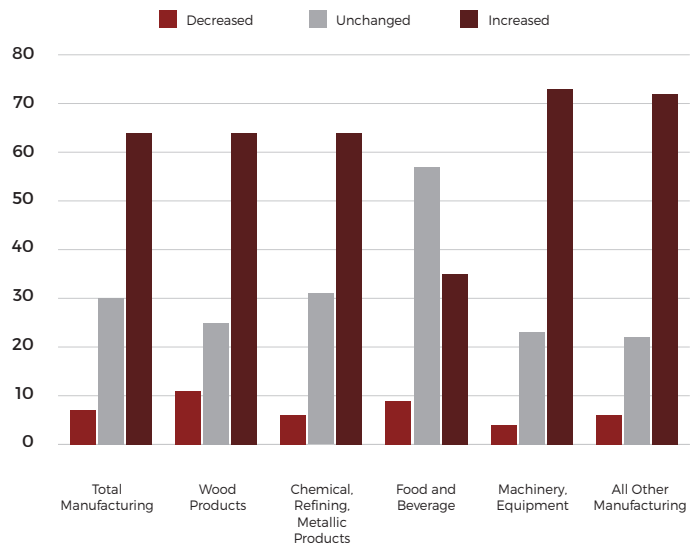


Figure 9. What will happen to your plant's profits during 2017?

Montana manufacturers are generally optimistic about future profits. About 61 percent said they expect their plants to have increased profits in 2017. The least optimistic were food and beverage manufacturers, where fewer thought there would be increases and more expected decreased profits in 2017. A relative high number of other manufacturers were pessimistic, mostly because few respondents said that profits would remain unchanged.

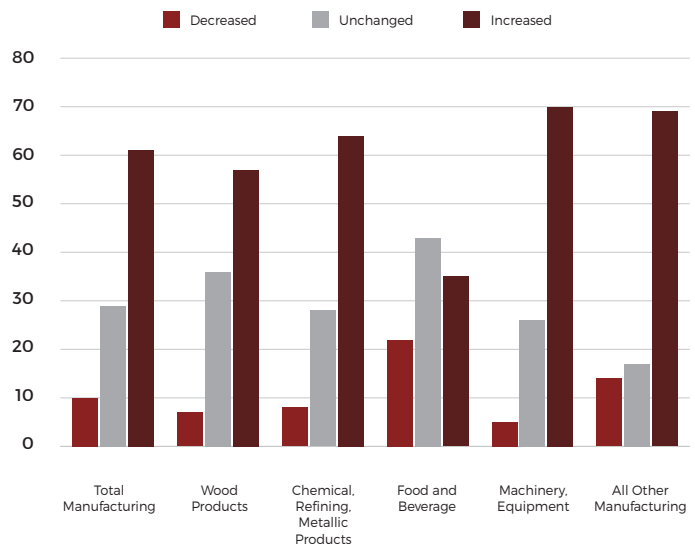


Figure 10. What will happen to your plant's employment in 2017?

A large majority of manufactures said they believe their employment would increase or remain unchanged. Very few said they expected declines. The most optimistic were machinery/equipment manufacturers with 56 percent expecting employment to increase. The least optimistic were wood products, and food and beverage firms, with 22 percent expecting increased employment.

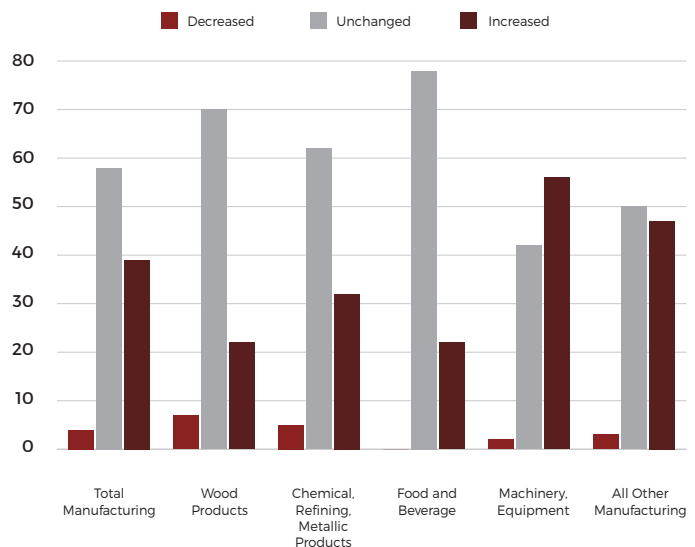


Figure 11. What will happen to your input costs in 2017?

Manufacturers said they believed their input costs would remain unchanged or increase in 2017. These responses were approximately the same for four of the five categories. Fewer plants in the food and beverage category said that their input costs would increase, while more said they would remain unchanged.

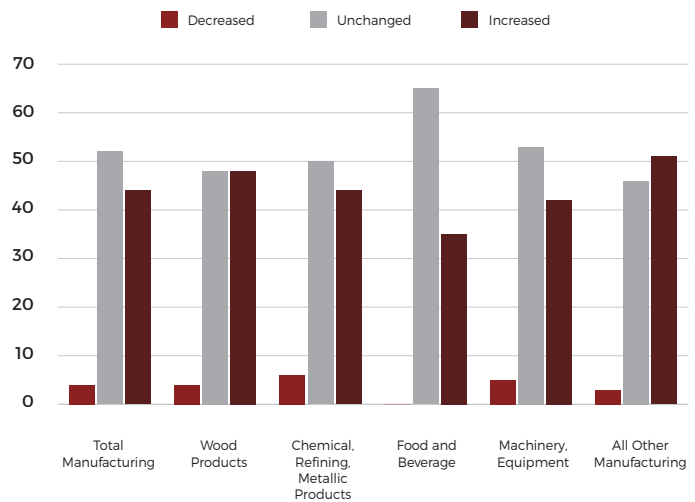


Figure 12. What is your overall outlook for your plant in 2017?

Montana manufacturers were optimistic about 2017. About 55 percent said they expected 2017 to be better, with only 8 percent saying they expected the outlook to be worse. The most optimistic were machinery/equipment manufacturers, while the least optimistic were food and beverage firms.

